

STEEL STEAMER ~~or MOTORSHIP~~

Received at London Office 18 FEB 1931

State if Report has been sent on the Freeboard of the Vessel

State if Report is sent on the Machinery of the Vessel

Date of completion of report

Port of LiverpoolNo. 98307Survey held at BirkenheadDate First Survey 30<sup>th</sup> May 1930Last Survey 4<sup>th</sup> February 1931

On the (State if Machinery fitted Aft and if Single, Twin or Triple Screw)

Single Screw Steamer 'AIRE'

State Type (Full Scantling, Complete Superstructure with or without Tonnage Openings)

Full Scantling

State Type of Erections

Poop, Bridge & Forecastle

TONNAGE under Tonnage Deck

869.68CLASS 100A1

State if with freeboard as condition of Class

ho

Built at

Birkenhead

Do. of space or spaces between Tonnage Dk. and Upper Dk.

Total

869.68

Gross Tonnage

1107.61

Register Tonnage

445.02

Length from fore part of stem to after part of stern post on summer L.W.L. See Sec. 3 (1a)

L 240'-0"

Breadth (greatest moulded)

B 34'-0"

Depth at middle of length from top of keel to top of beam at side of uppermost continuous deck. See Sec. 3 (1c)

D 16'-5 1/4"

1st Longitudinal Number (L x D)

= 3920

2nd Numeral L x (B + D)

= 12080

Framing Depth "d" at middle of length. See Sec. 3 (1d)

13.75

Proportions—Depth to Length—Uppermost continuous deck to top of keel

14.69

Do. Long Bridge to top of keel

14'-8 1/4"

Draught Moulded

14'-8 1/4"Launched 9<sup>th</sup> December 1930. Yard No. 978Builders Messrs. Cammell Laird & Co. Ltd.Owners London, Midland & Scottish Railway.

Managers

(Where necessary to be entered in Reg. Book.)

Residence

London

Port of Registry

PoolIf surveyed while building, afloat, 5 in dry dockYes.

## FRAMES, DOUBLE BOTTOM AND BEAMS.

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.		INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
FRAMES, Spacing amidships	23		Bracket Floors, Frame	✓	
" " from 3/4 length to Collision bulkhead	23		" " Reversed Frame	✓	
" " in peaks	23		" " Vertical Struts	✓	
DE FRAMING.			Centre Girder, depth and thickness amidships	32 x 41/2	
Frame Amidships, Angle, <u>E or F</u>	6 3 39	Boiler Room Bunker	" " top Angles <u>Single</u>	3 3 39	
" " Extends up to	Upper Dk		" " bottom Angles <u>Double</u>	4 4 42/40	
Reversed Frame Amidships, Angle	✓		Side Girders, No. each side and thickness	One 31	
" " Extends up to	✓		Margin Plate depth (excl. of flange) and thickness	29 x 36	
Depth of Framing Girder	5 1/2		" " Vertical Angle to Tank side Bracket abaft 1/4 len. from stem	3 3 31	
Frames in Uppermost Continuous 'tween Decks, Angle, <u>E or F</u>	✓		" " Vertical Angle to Tank side Bracket forward 1/4 len. from stem	5 5 31	
" " Second 'tween Decks, Angle, <u>E or F</u>	✓		" " Gussets, spacing and scantling abaft 1/4 len. from stem	✓	
" " Third " " "	✓		" " Gussets, spacing and scantling forward 1/4 len. from stem	✓	
Framing in Peaks, Angle <u>E or F</u>	6 3 36		Tank Side Brackets, height above base line at toe of Frame and thickness	40 x 31	
Diameter and Spacing of Rivets through Frame and Shell Plating amidships	3/4 x 7/8 1 1/2 7		INNER BOTTOM PLATING.		
State if Frame Joggled	Yes		Breadth and thickness of Middle Line Strake	44 x 44/40	
STRENGTHENING ARRANGEMENTS (Sec. 7), state system and particulars	2 Side Stringers Intermediate Knees for 21. forw.		Thickness of remainder in Holds	8 1/2 36	
STRENGTHENING OF BOTTOM FORWARD. State Particulars	2 Stringers shell plating bent Keel amidships thickness carried to rule position of Coll. Bld.		Are Rule requirements complied with regarding increases of scantlings in way of double bottom in E. & B. space and framing in Bunkers and Boiler Room?	Yes	
DOUBLE BOTTOM.			BEAMS.		
Floors, Depth and thickness at mid-line in Holds <u>Boiler Room &amp; Gun Bunker</u>	20 x 34 Cross Bunker. 20 x 49 B.S.		Uppermost Continuous Deck, amidships in Wells, Angle, <u>E or F</u>	6 3 36	
Height of Brackets at side above base line at toe of frame	52 in Bunker 48 in B.S.		" " in way of Bridge, Angle, <u>E or F</u>	6 3 36	
Middle Line Keelson, on Floors, Angles, <u>E or F</u>	5 x 5 x 35 Cross Bunker 6 x 5 x 45 B.S.		Spacing	28 x 46	
" " Through Plate <u>Intercostal Plate</u>	12 x 13 B.S. 12 x 13 Cross Bunker.		Second Deck, amidships, Angle, <u>E or F</u>	✓	
" " Foundation Plate on Floors	4 4 50 Double.		Spacing	✓	
" " Flat Plate Keel Angles	✓		Third Deck, amidships, Angle, <u>E or F</u>	✓	
Side Keelsons, No. each side	Two		Spacing	✓	
" " thickness of Intercostal Plate	44 B.S. 34 Cross Bunker.		Fourth Deck, amidships, Angle, <u>E or F</u>	✓	
" " Angles	5 3 50 B.S. 5 3 40 Cross Bunker.		Spacing	✓	
DOUBLE BOTTOM.			Poop Deck, Angle, <u>E or F</u>	6 3 36 4 8 34	
Solid Floors, thickness and spacing	31 - 23		Spacing	23 x 46	
" " Are Frame and Reversed Frame joggled?	Yes		Bridge Deck, Angle, <u>E or F</u>	5 3 44 4 3 38	
Bracket Floors, breadth and thickness at middle line	✓		Spacing	23	
" " breadth and thickness at margin plate	✓		Forecastle Deck, Angle, <u>E or F</u>	7 3 36	
			Spacing	46	



# PILLARS AND DECKS.

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.		INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
<b>PILLARS, No. of Rows.....</b>	one		Stringer Plate, breadth and thickness in way of Bridge .....	✓	
„ in 'tween Decks, Size and Spacing.....	✓		Thickness of Plating abreast Deck openings in way of Wells .....	✓	
„ „ „ „ „	✓		Thickness of Plating abreast Deck openings in way of Bridge .....	✓	
„ in Hold „ „	4" dia spaced 46"		Thickness of Plating within line of openings...	✓	
„ „ „ „ „	✓		If Sheathed, material and thickness .....	✓	
<b>Centre Line Bulkhead.</b>			<b>Third Deck.</b>		
Stiffeners and Spacing.....	✓		Stringer Plate, breadth and thickness.....	✓	
Plating, thickness of .....	✓		If Plated, state thickness.....	✓	
<b>STRINGERS AND DECKS.</b>			<b>Fourth Deck.</b>		
<b>Uppermost Continuous Deck.</b>			Stringer Plate, breadth and thickness.....	✓	
Stringer Plate, breadth and thickness in Wells	45 x .63		If Plated, state thickness .....	✓	
„ „ „ „ in way of Bridge	48 x .34		<b>Poop Deck.</b>		
„ Angle in Wells .....	5 5 .58		Stringer Plate, breadth and thickness .....	22 x .30	
Thickness of Plating abreast Deck openings in way of Wells .....	.32		Plating, Sheathing, material and thickness ...	30 sheathed 5 x 3 P.P. line	
Thickness of Plating abreast Deck openings in way of Bridge .....	.32/.34		<b>Bridge Deck.</b>		
Thickness of Plating within line of openings...	.30/.34		Stringer Plate, breadth and thickness.....	42 x .36	
If Sheathed, material and thickness .....	✓		Plating, Sheathing, material and thickness ...	.32 Composition in way of house	
<b>Second Deck.</b>			<b>Forecastle Deck.</b>		
Stringer Plate, breadth and thickness in Wells...	✓		Stringer Plate, breadth and thickness.....	22 x .34	
			Plating, Sheathing, material and thickness ...	34 x .40 in way of Windlass	

## SHELL PLATING.

SCANTLINGS.					RIVETING.						
STRAKES.	AS IN VESSEL.				ANY DEPARTURE FROM APPROVED PLANS TO BE NOTED.	EDGES. <i>no</i>		BUTTS.			
	AMIDSHIPS.		FORWARD.	AFT.		State if jogged?	RIVETS.	No. of Rows of Rivets.	RIVETS.		STRAPPED OR LAPPED.
	Breadth.	Thickness.	Thickness.	Thickness.					Diam.	Spacing cr. to cr.	
FLAT PLATE KEEL .....	42	.75	.59	.59	(see letter)	Double	1 4	4R	1 4	Lapped	
„ DBLG. (if any)		60 40'0" from stem post.				✓	✓	✓	✓	✓	
BOTTOM PLATING, No. of Strakes .....	54	.42	.38	.42		Double	3/4 3	3R	3/4 2 1/8	Lapped	
BILGE PLATING, No. of Strakes ...	48	.42	.38	.42		Single	3/4 3	3R & 2R	3/4 2 1/8	"	
SIDE PLATING, No. of Strakes .....	50	.42	.38	.38		"	3/4 3	2R	3/4 2 1/8	"	
UPPER DECK, Sheer-strake in Wells.....	46	.75 off well	.38	.38		Double	1 4	5R	1/8 3 1/2	"	
UPPER DECK, Sheer-strake in Bridge ...	46	.42	.38	.38		Single & Double	1 3/4 3 1/4	5R & 2R	1 3/4 4 1/2	"	
STRAKE BELOW Sheer-strake in Wells.....	46	.52	.38	.38		Single	1/8 3 1/2	3R	1/8 3 1/8	"	
STRAKE BELOW Sheer-strake in Bridge ...	46	.42	✓	✓		Single	3/4 3	3R & 2R	1/8 3 1/8	"	
POOP SIDE PLATING .....	✓	.28	✓	✓		Single	5/8 2 1/2	1R	5/8 2 1/4	"	
BRIDGE SIDE PLATING ...	✓	.42/.46	✓	✓		Double & Single	3/4 3	3R	3/4 2 1/8	"	
FORECASTLE SIDE PLATING	✓	.30/.32	✓	✓		Single	5/8 2 1/2	1R	5/8 2 1/4	"	

## WATERTIGHT BULKHEADS.

Total No. of W.T. BULKHEADS in Vessel—	Five
Extending to Upper Deck (Sec. 3 c)	Five
„ Deck next below .....	✓
As per Rule .....	✓

## FORGINGS and CASTINGS.

	Casting or Forging.	Scantlings.	Maker's Name.	Any departure from approved plans to be noted.
<b>KEEL, Bar .....</b>	✓	✓		
<b>STEM .....</b>	Roller Steel	6 7/8 x 1 3/4	David Brown & Sons	
<b>STERN FRAME</b> { Propeller Post .....	Cast steel	8 5/8 x 4 1/2	Thos. The Steel Co. of Scotland Ltd.	
{ Rudder „ .....	steel	6 x 4 7/8		
<b>RUDDER—A x D.....</b>				
<b>Speed of Vessel.....</b>	13 knots			
<b>RUDDER</b> mainpiece at head ...				
„ „ heel ...				
„ how constructed .....				
„ double or single plate coupling, vertical or horizontal.....				

	Plating Thickness.	STIFFENERS.			
		VERTICAL.		HORIZONTAL.	
		Scantlings.	Spacing.	Scantlings.	Spacing.
<b>MIDSHIP BULKH'D, Upper tween decks</b>	✓	✓	✓	✓	✓
„ „ Second	FR. 94	.25/.34	6 1/2 x 3 x 34	30	✓
„ „ Third	FR. 69	.25/.45	6 x 3 x 34	30	✓
„ „ Holds	FR. 39...	.25/.35	6 x 3 x 36	24 & 27	✓
<b>COLLISION</b> „ (in Hold) .....	.37/.45	6 x 3 x 38	24	✓	✓
<b>AFTER PEAK</b> „ „ .....	.30/.45	8 x 3 x 40	24	✓	✓

<b>STEEL.</b>	Manufacturer's Name or Trade Mark of the Steel used in the construction of the Vessel (state process of manufacture)
	Pease & Partners; Appleby Iron Co; Baldwin & Co.; Dorman Long & Co.; Consett Iron Co.; Steel Co. of Scotland; Cleveland Steel Works; Cargo Fleet Iron Co. Ltd.
	Has the Steel been tested as required by the Rules? <i>yes.</i>



EQUIPMENT No. 13653												LETTER 0		ANCHORS. 3B. 15.		
Number of Certificate.	Anchors.	WEIGHT, <del>Wt.</del> STOCK LESS			WEIGHT OF STOCK.			TEST, PER CERTIFICATE.				WEIGHT REQUIRED BY TABLE 53.		Description of Anchor.	Makers.	Where and when tested and Superintendent.
		Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Cwts.				
64067	1st Bower ...	28	1	19	-	-	-	27	8	0	14	28	Taylor Drednought	S. Taylor & Son	L.P.H.T. 22/8/30; W.A. Ryndale.	
64066	2nd „ ...	28	1	0	-	-	-	27	6	1	0	28	Do	Do	L.P.H.T. 22/8/30; W.A. Ryndale.	
64065	3rd „ ...	23	3	14	-	-	-	23	15	2	14	24	Do	Do	L.P.H.T. 21/8/30; W.A. Ryndale.	
	Collective weight.	80	2	5	✓	✓	✓	✓	✓	✓	✓	80	✓	✓	✓	
63881	Stream <sup>stock</sup> ...	7	1	0	1	3	14	9	9	1	14	✓	ordinary	Do	L.P.H.T. 1/7/30; W.A. Ryndale.	

CHAIN CABLES.												HAWSERS AND WARPS.							
Number of Certificate.	Length and size supplied.		Test per Certificate.		WEIGHT OF CHAIN CABLE.				Length and Size per Table 53.		Description.	Makers of Cables.	Where and when tested, and Superintendent.	Material.	Length and Size supplied.		Breaking Test of Steel Wire.	Length and Size per Table 53.	
	Length.	Diam.	Statutory.	Breaking.	Supplied.		Per Rule.		Length.	Diam.					Length.	Ins.		Length.	Ins.
66428	120	19/16	43 9/10	61 3/5	152-2-24		298 3/4		240	19/16	Stud	J. Taylor & Sons (Brinsley Hill) & Co.	L.P.H.T. 24/7/30. W.A. Ryndale.	TOWLINE...	90	3 1/4	21.7	90	3 1/4
66429	120	19/16	43 9/10	61 3/5	152-0-24		✓		✓	✓	D°	D°	L.P.H.T. 25/7/30. H.C. Lison.	HAWSERS & WARPS	1-90	2 1/2	✓	90	2 1/4
✓	240	✓	✓	✓	304-3-20		✓		✓	✓	✓	✓	✓		1-90 Max.	10	✓	90	1 3/4
		Or.					✓			Or.					2-90 "	3 1/2			
Iron-Stream Chain-Steel Wire	75	3 3/4	✓	29.3	✓		✓		75	3 3/4	✓	✓	✓	"	4-75 "	2 1/2	✓	✓	✓
															2-75 "	2 1/2			

Steering Gear, Steam by J. Hastie with Brown Telemeter

Steering Gear, Hand

Boats 1-24.1'x7.6'x3.05' 7  
1-24.05'x7.55'x3.05' 7

Steering Chains, Size and Test

Windlass Steam by Emerson & Walker

Ceiling in Holds, thickness and material 3R pine, sheathed 3" a. Elm

Cargo Battens, thickness, material and spacing 6"x2" W. Pine; 9" spaces.

Cargo Hatchways.-(Upper Deck) Built plates and angles

Thickness of Hatches 3" white pine

Size of No. 1 Hatchway (Forward) 15'8"x11'0" No. 2 26'10"x13'0" No. 3 28'0"x12'0" No. 4 ✓ No. 5 ✓ No. 6 ✓

Number of Shifting Beams and/or Fore and Afters 20-2 Beams; 20-4 Beams; 20-3-4 Beams; 20 fore and afters.

GAMMELL LAIRD AND COMPANY LIMITED.

Builder's Signature

SECRETARY

GENERAL DECLARATION. It should be stated (a) whether the vessel is fitted for the carriage and burning of oil used as fuel (b) whether the vessel, not being an oil tanker, is fitted for carrying oil as cargo The positions in which oil is carried as fuel or cargo should be indicated, together with the flash point.

This vessel has been built in accordance with the approved plans, the Secretary's letters and the Society's rules for the class contemplated.

The workmanship and materials are good.

A peilboard of 1'-10 1/2" has been assigned and verified, and the peilboard marks cut in on the vessel's sides.

All double bottom tanks, peak tanks, decks and bulkheads and tunnel have been satisfactorily tested.

Approved plans 17 in number, (details on page 4) are forwarded with this report.

The amount of Entry Fee ..... £ 5 : 0 : 0  
Special Survey Fee.... £ 110 : 15 : 0  
Peilboard 5 : 0 : 0  
Travelling Expenses, if any £ : :  
Fees applied for, 17 FEB. 1931  
Received by me, 27/2/31

I am of opinion the Vessel should be Classed  $\nabla$  100A1.

State whether the Vessel has been built under Special Survey

Signature

Surveyor to Lloyd's Register of Shipping.

Certificate to be sent to LIVERPOOL Date of issue 2/3/31

Committee's Minute

Character assigned

LIVERPOOL 17 FEB. 1931

+ 100A1. - 2.31.

Lloyds A & CP.

+ LMC - 2.31.

F.D.

O.C.

Elec. Light



GENERAL REMARKS—(The Surveyor should state the Number of Report and Name of any Sister Vessel. Plans showing Vessel as built should be forwarded and a List of the Plans should be embodied.)

The following approved plans are forwarded with this report:—

Midship Section.

Longitudinal Section.

Engine and Boiler Casing Scantlings.

Stern Framing.

Gangway Doors.

Mast Plan.

Full size Section of Propeller post.

Rudder Forging and Stem Frame.

Alternative proposal for upper Deck Plating.

Rudder and Stem Frame.

Cargo Hatches. Hatch

Detail of Reith Patent (2 plans) not fitted—in ship.

Arrangement in way of No. 3 Hatch.

Compensation angles at Corner of after Gangway Doors.

Flt showing compensation in way of Boiler openings.

Details of Multiple Riveting.

This Vessel is sister to the S.S. "CALDER" Liverpool Report No. 97993, also to the S.S. "BLYTH" Liverpool Report 98186.

Particulars of Drop Test of Cast Steel Anchors, viz.:—  
Weight, Surveyor's Initials, Number of Certificate, Date of Test.

1st Bower

2nd "

3rd "

Forged Ingot Steel head and Shank

PARTICULARS FOR RECORD in the REGISTER BOOK.—Length of Poop 38.33 ft., R.Q.D. ✓ ft., Bridge 84.5 ft., Forecastle 34.5 ft. (in feet and tenths). When the Poop is joined to the B.D., this should be distinctly stated

No. and Material of Decks (this information is to be given as it should appear in the Register Book) 105 (steel).

Official No. 161049 : Signal Letters

Is bottom of Vessel coated with cement *yes* if not give

particulars of composition

#### PARTICULARS OF WATER BALLAST.—

Where Fitted.	*Length.	Water Capacity.	Where Fitted.	*Length.	Water Capacity.
	Feet.	Tons.		Feet.	Tons.
Double bottom, aft,	57.5	57.18	Fore peak tank,	17.18	16.80
Double bottom, under Engines and Boilers, 72-85	✓	✓	After peak tank,	15.33	40.05
Double bottom, if under Engines only,	15.38	25.88	Deep tank, aft,	✓	✓
Double bottom, if under Boilers only, open floors,	✓	✓	Deep tank, forward,	✓	✓
Double bottom, forward,	90.08	110.13	Other tanks, if fitted,	✓	✓
Total capacity of double bottom		193.19	(If necessary, furnish further information by sketch.)		
* The wells are not to be included in the lengths of the tanks.					

Order for Special Survey No. 1252.

Date

20/6/1930

Dates of Surveys held while building

May 30. June 18. 25. July 14. 28. Aug 13. 19. Sept 3. 12. 17. 25. 30. Oct 21. 22. 27. 29. 30. Nov 3. 4. 10. 11. 14. 17. 21. 24. 26. 28. Dec 1. 3. 4. 9. 18. 23. 30. Jan 6. 8. 13. 14. 15. 19. 21. 22. 26. Feb 2. 4.

Total No. of Visits

45

Lloyd's Register Foundation